

What is claimed is:

- 1 1. A pump for use with a source of fluid, comprising:
2 a) a base;
3 b) a first connector projecting from said base for attachment to the
4 source of fluid;
5 c) said base having through outlet means in fluid communication with
6 the ambient atmosphere;
7 d) said first connector being hollow for fluid communication between
8 the source of fluid and said base;
9 e) said connector and said through outlet means having their axes
10 disposed in planes substantially normal to each other; and
11 f) a flexible pressure member

- 12 1) attached to said base in overlying, fluid-tight relationship
13 therewith and
14 2) forming a chamber with said base whereby, upon collapse of
15 said pressure member, fluid within said chamber is expelled
16 therefrom through said through outlet and, upon expansion of
17 said pressure member, fluid is drawn into said chamber.

- 1 2. The pump of Claim 1 wherein said flexible pressure member is
2 transparent.

- 1 3. The pump of Claim 1 wherein said source of fluid is a collapsible bag.

- 1 4. The pump of Claim 1 wherein first valve means are carried by said base
2 for selectively closing off and opening said first connector to fluid
3 communication.

1 4 5. The pump of Claim 1 wherein said first valve means include a ball
2 movable into and out of engagement with said first connector.

1 5 6. The pump of Claim 5 wherein said base has a bottom wall; and at least
2 one rib projecting upwardly from said bottom wall and disposed adjacent
3 the point of connection of said first connector with said base; and said ball
4 is loosely held between said at least one rib and said bottom wall.

1 6 7. The pump of Claim 6 wherein said at least one rib is integral with said
2 base.



1 8. The pump of Claim 1 wherein a second connector is carried by said base
2 in fluid communication with said through outlet means, and second valve
3 means are disposed within said second connector for selectively opening
4 and closing said first connector to fluid communication.

1 8 9. The pump of Claim 8 wherein said second valve means includes a spring
2 received within said second connector; and a ball engaged with said
3 spring.

1 9 10. The pump of Claim 1 wherein said flexible pressure member is generally
2 configured as a hemisphere.

1 10 11. The pump of Claim 10 wherein said flexible pressure member has a
2 flattened area at its apex.

1 11 12. The pump of Claim 10 or Claim 11 wherein said flexible pressure member
2 is transparent.

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1 13. The pump of Claim 1 wherein
2 a) said base has
3 i) an upstanding peripheral flange and
4 ii) a recess spaced inwardly from said flange;
5 b) said pressure member has a peripheral shoulder sized to fit partially
6 within said recess; and
7 c) a retaining ring is provided with a recess for engagement with said
8 shoulder when said pressure member is partially received with said
9 recess of said base.

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1 14. The pump of Claim 13 wherein at least one radially inwardly extending
2 engagement lug is provided on said upstanding peripheral flange of said
3 base for engagement with said retaining ring when said pressure member
4 and said retaining ring are seated in said base.

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1 15. The pump of Claim 14 wherein said retaining ring has a peripheral groove
2 for engagement with said at least one engagement lug.

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1 16. The pump of Claim 1 wherein said second connector includes an elongate
2 hollow body interconnecting said base and the atmosphere; the projecting
3 end of said elongate body including annular rib means on its external
4 surface; and a nozzle is releasably received on said projecting end.

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1 17. The pump of Claim 16 wherein said rib means include a series of three
2 annular ribs; and said nozzle includes mating internal recesses for
3 releasable engagement with said rib means on said projecting end of said
4 second connector.

1 18. A pump for use with a source of fluid, comprising:
2 a) a base;

- 3 b) a transparent flexible pressure member attached to said base in
4 overlying relationship therewith to form, together with said base, a
5 fluid-tight chamber;
6 a first connector
7 1) projecting from said base, and
8 2) adapted to be attached to the source of fluid in fluid
9 communication therewith and with said chamber;
10 d) a second connector projecting from said base in fluid communication
11 with said chamber and the ambient atmosphere; and
12 e) first and second valve means associated with said first and second
13 connectors, respectively
14 1) whereby said first and second connectors can be selectively
15 opened and closed in response to collapse and expansion of said
16 flexible pressure member.

1 18. A pump for use with a source of fluid, comprising:

- 2 a) a base for attachment to the source of fluid;
3 b) a flexible dome receivable on said base to form a fluid-receiving
4 chamber between said base and said dome;
5 c) a retaining ring releasably engaging said base and said flexible dome
6 to form a fluid-tight seal therebetween; and
7 d) said base having a through bore for fluid communication with the
8 ambient atmosphere.

1 19. A fluid dispenser, source of fluid and pump combination, comprising:

- 2 a) a dispenser housing including
3 1) a back plate, and
4 2) a cover hingedly connected to said back plate for movement
5 between an open and a closed position;

- 6 b) said back plate and said cover creating a chamber for receipt of the
7 source of fluid when said cover is in said closed position;
8 c) a pump
9 1) attached to the source of fluid, and
10 2) having inlet means in fluid communication with the source of
11 fluid, and
12 3) outlet means in fluid communication with the ambient
13 atmosphere;
14 d) said pump including a transparent flexible dome; and
15 e) said transparent flexible dome being visible and accessible through
16 said cover.

- 1 ²⁰
2 ²¹ A pump for use with a source of fluid, comprising:
3 a) a base having an inlet opening for connection to the source of fluid
4 and an outlet opening for communication with the ambient
5 atmosphere;
6 b) a flexible transparent dome receivable on the base to form a fluid-
7 tight chamber therewith; and
8 c) a retaining member attachable to the base in partial overlying
 relationship with said flexible transparent dome.

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1 ²² The pump of Claim ²¹ further characterized by the presence of valves
2 disposed adjacent said inlet and outlet openings.

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